WORLDWIDE EMERGING ENVIRONMENTAL ISSUES AFFECTING THE U.S. MILITARY Contract No: DAAD19-02-D-0001/ Delivery Order 0456 with Battelle Columbus Operations for the U.S. Army Environmental Policy Institute

SEPTEMBER 2005 REPORT

Note to Readers: Pages 1-11 comprise the summary and analysis of this report. Expanded details for some items that might not be available via the Internet at a later date are in the Appendix beginning on page 12.

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Item 1. Environmental Issues were not dominant in the UN Summit Speeches

Environment and global warming issues were mentioned in several speeches delivered by Heads of State and Governments at the UN Summit, however it was not a dominant theme. There were calls to ratify international treaties designed to tackle environmental and global warming problems, and agreement was reached to create a worldwide early warning system for all natural hazards and improve the Central Emergency Revolving Fund to ensure timely relief. Leaders of small island states warned that unless aggressive action is taken to deal with climate change to protect small island states, their people will become environmental refugees due to rising ocean levels. The Guiding Principles on Internal Displacement were recognized as an important international framework for the protection of internally displaced persons. Environment was listed along with the International Criminal Court, human rights, and disarmament as an issue that was not addressed strongly enough in the 2005 World Summit Outcome.

Military Implications:

It could be a mistake to interpret this as a decrease in environmental interest. Much political energy was dedicated to UN Security Council reform and international lobbying to reverse the US initial position to delete the Millennium Development Goals. Although environmental issues were relatively less prominent in this final UN Summit document than in the previous one, it is likely that environment-related actions and regulations will go beyond the agreed document due to momentum of improving international environmental agreements documented previously in these reports.

Sources:

UN Summit 2005

http://www.un.org/summit2005/

Value of collective security through multilateralism stressed at UN Summit http://www.un.org/apps/news/story.asp?NewsID=15811&Cr=world&Cr1=summit
National leaders at UN Summit call for stepped-up action to fight climate change http://www.un.org/apps/news/story.asp?NewsID=15833&Cr=world&Cr1=summit

Item 2. European Commission Enforces Environmental Pollution Legislation

The Court of Justice of the European Communities ruled that the European Commission (EC) would have the right to require Member States to impose criminal penalties on environmental polluters "in order to ensure that the rules which it [the EC] lays down on environmental protection are fully effective." Although EU countries will still be the ones to prosecute, the Commission could extend its powers by recommending the level of punishment. This ruling is consistent with the Community's environmental strategy underlined by the obligation of having environmental protection requirements "integrated into the definition and implementation of the Community's policies and activities."

Note: The EC began improving its whole system of regulations, by three main actions: withdrawal or modification of pending proposals; simplification of existing EU-law; and better quality of new Commission proposals.

Military Implications:

This Court's ruling helps harmonize and strengthen the enforcement of EU environmental legislation. The Army (US Army Europe (USAREUR) and the European Command (USEUCOM)) and its contractors acting in the EU countries should review their SOFAs to ensure that all EC stipulations concerning environmental protection are duly respected. Given the difficulty and infrequency of SOFA revision, special attention might be required in future interpretation of existing SOFAs, in order to not unfairly embarrass host nations vis-à-vis their EU obligations.

Sources:

The European Community Has The Power To Require The Member States To Lay Down Criminal Penalties For The Purpose Of Protecting The Environment http://curia.eu.int/en/actu/communiques/cp05/aff/cp050075en.pdf

Better Regulation

http://europa.eu.int/rapid/pressReleasesAction.do?reference=MEMO/05/340&format=HTML&aged=0&language=EN&guiLanguage=en

Item 3. Asian Regional Forum on Combating Environmental Crime Formed

The "Asian Regional Forum" will be established to share information and expertise in policy, law, training, investigation and prosecution related to environmental crimes in Asia. The Forum is the result of a meeting in Bangkok on 25 August 2005 of the Regional Intelligence Liaison Office for Asia and the Pacific (RILO A/P), the regional office of INTERPOL, the World Conservation Union, TRAFFIC (the wildlife trade monitoring network), the World Customs Organization, the UK-based Environmental Investigation Agency (EIA) and Thailand's Office of the National Implementation for Chemical Weapons Convention. The regionalization of the Green Customs Initiative was also discussed to share information and training materials for customs officials to combat illegal trade in commodities of environmental concern. It is estimated that environmental damage caused by illegal trade in hazardous wastes, smuggling proscribed hazardous materials, and exploiting and trafficking of protected natural resources worldwide is US\$22-31 billion annually. The Forum will be facilitated by the United Nations Environmental Program's Regional Office for Asia and the Pacific.

Military Implications:

Relevant military personnel in the Asia region should explore liaison with the Forum and methods of collaboration. Since international crime tends to destabilize nations through graft and corruption and different forms of international crime tend to be inter-connected, such collaboration would support national defense goals.

Source:

Regional Forum On Combating Environmental Crime Formed http://www.world-wire.com/news/0915050002.html

Item 4. Better Disaster Planning to Avoid Environmental Catastrophes

Hurricane Katrina along the U.S. Gulf Coast has introduced a new term, "toxic gumbo", into the environmental vocabulary, referring to the liquid/sludge produced when storms cause flood waters to overrun populated areas, especially industrial tracts, picking up from storage facilities a hazardous mix of all sorts of chemicals, both end-products and precursors. As the flood recedes, it may deposit this nasty brew over an entire region, including wetlands, and/or carry it into previously unaffected waters. Katrina produced environmental damage and pollution of this kind on an unprecedented scale outside of full-scale war. President Bush has suggested a greater role for the military in post-national disaster management.

On the other side of the Atlantic, spurred by floods and fires in many places around the continent, the European Commission passed a resolution calling for better disaster planning coordination among its members.

The Asian Conference on Disaster Reduction held in Beijing, aims to assess disaster reduction progress across Asia and build a platform for cooperation on early warning, disaster prevention, reduction, and response in Asia.

UN Secretary-General Kofi Annan, reviewing the statistics of 2004 natural disasters, called for more emphasis on actions to prevent and react to natural disasters, "because their incidence and severity is increasing due to climate change, environmental degradation, inappropriate development patterns and inadequate mitigation and preparedness systems."

Military Implications:

Natural disasters are forecasted to increase in frequency and severity with global warming and continued urban concentrations of large populations, threatening environmental security on a broader scale. Due to military logistic capabilities of many countries, it is reasonable to assume an increased military role in natural disaster management around the world. Special attention should also be given to collaborating with local industries handling environmentally hazardous materials to maximize their security in case of natural or human-caused disasters. Also, it is important that adequate plans are in place for disaster management, and for post-incident surveys and cleanup, and that these plans are integral parts of local disaster relief plans. As an example, USEUCOM should cooperate with the EC efforts, and integrate its preparations with those of the national authorities.

Sources:

'Toxic Gumbo': Surprises for Chemicals Policy, Bart Mongoven September 14 2005 22 48 GMT (by subscription only; contact STRATFOR for access) https://www.stratfor.com/products/enhanced/read_article.php?selected=Analyses&id=255542

EU Parliament Calls for Better Disaster Responses

http://www.planetark.com/dailynewsstory.cfm/newsid/32431/story.htm

Asian countries to enhance disaster reduction co-operation http://news.xinhuanet.com/english/2005-09/28/content_3553846.htm

Annan urges global emphasis on disaster planning to mitigate death and destruction <a href="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?NewsID=16005&Cr=disaster&Cr1="http://www.un.org/apps/news/story.asp?News/story.asp."http://www.un.org/apps/news/story.asp.news/story.asp."http://www

Item 5 Technological Breakthroughs with Environmental Security Implications

5.1 New Oil Remediation and Recovery Technique

A proprietary oil remediation and recovery application, using patented Self-Assembled Monolayer (SAMs) technology, has been announced by Interface Science Corp. Its treated material, produced using nanoscale techniques, absorbs about 40 times its weight in oil, and has the added advantage of allowing the absorbed oil to be recovered.

Military Implications:

Relevant military personnel should follow the development of this new technology, and consider its eventual use in cleanup of both non-conflict and battlefield oil pollution.

Source:

Nanotechnology for Recovery and Reuse of Spilled Oil http://www.physorg.com/news6358.html

5.2 Hydrogen Tablets

Scientists at the Technical University of Denmark (DTU) have invented a hydrogen tablet that can efficiently and safely store and transport hydrogen in a solid form. The tablet consists solely of ammonia absorbed efficiently in sea-salt. When hydrogen is needed, ammonia is released through a catalyst that decomposes it back to free hydrogen. The tablet can be simply recharged just by a "shot" of ammonia. DTU and SeeD Capital Denmark have founded the company Amminex A/S to develop and commercialize the technology.

Military Implications:

The military should consider the new technology to further the completion of environmentally friendly vehicles, assuming that the hydrogen is generated via an environmentally friendly energy processes.

Source:

University of Denmark Scientists Develop Hydrogen Tablet http://www.fuelcelltoday.com/FuelCellToday/IndustryInformation/IndustryInformationExternal/NewsDisplayArticle/0,1602,6487,00.html

5.3 Tiny Batteries Offer Several Promises

mPhase Technologies, in collaboration with Rutgers Univ. and Bell Laboratories, is working on tiny batteries that can hold their charge much longer than today's cells, and could be integrated directly into a circuit board rather than connected by wires. "This is something small, less than postage-stamp size that could be integrated into the same piece of silicon that is housing the electronics," according to Ron Durando, CEO of mPhase. Foresight Institute believes that the work might lead to batteries with a 20-year shelf life. The technology is based on a material called "nanograss", developed at Bell Labs, which permits the control of the interaction of electrolytes within the battery.

Military Implications:

The military should monitor the development of this technology and evaluate potential applications from the proposed autonomous networked nanosurveyors for post-conflict cleanup to miniaturized environmental sensing devices. Final disposal will need to be addressed, though, since this is a general nano-technology issue that is still in question.

Source:

Putting power into battery research http://smalltimes.com/document_display.cfm?document_id=9942

5.4 Bacteria Used to Eliminate Perchlorate from Water

Perchlorate, an ingredient of rocket fuel and fireworks, and known to be dangerous to human health, has become present in drinking water in many parts of the world. Bruce Rittmann of the Center for Environmental Biotechnology at Arizona State University, Tempe, has discovered an efficient way to remove the chemical, by using a system of bacteria that feeds on hydrogen gas and perchlorate to produce water and chloride—a compound commonly found in salts and swimming pools. The advantage of this system over others for the same purpose is that it's very cost-effective and it doesn't appear to generate harmful waste by-products. The bacteria are grown on membranes that are wrapped into spaghetti-like strands that can be filled with hydrogen and bundled into cylinders through which flows the contaminated water. A 1.5-meter-tall system with 7,000 fibers can clean 4-8 liters a minute, says the researcher. The system was already tested on ground water from California's central valley, and in about 2 years its efficiency could be boosted enough to clean the waste water of a small city. [See also *Firm Regulations for Perchlorates are Needed* in October 2004, and *Technology for Perchlorates Cleanup* of August 2004 environmental security reports.]

Military Implications:

[Same as for previous items on the same issue] Contamination with various types of perchlorates is one of the important issues of concern in many areas of the world. The new technology can be used for cleanup of the old contaminated areas and can be prepared in advance for rapid cleanup in case of eventual anticipated, unavoidable contamination.

Source:

Spaghetti filters cleanse water supplies. Chemists package bacteria to eliminate perchlorate. By Andreas von Bubnoff. news@nature.com, 1 September 2005
http://www.nature.com/news/2005/050829/full/050829-16.html (by subscription only; see alternative at: http://www.bioedonline.org/news/news.cfm?art=1994)

Item 6. Plastic Bags Taxed and/or Banned

Several jurisdictions, including Ireland, Taiwan, Bangladesh, and some Indian states are banning or taxing the use of plastic bags because of their potential as litter, their role in clogging flood control channels, and their threat to wildlife. Maharashtra blames them for floods that killed more than a thousand people.

Military Implications:

Restrictions of this kind could spread to other areas. The military should seek substitutes. Some work is being done on the use of bioplastics made from sucrose or grain, but more R&D is necessary to find economic alternatives to petroleum-based films.

Source:

Plastic Bags Banned, Blamed for West India Floods http://www.planetark.com/dailynewsstory.cfm/newsid/32217/story.htm

Item 7. Updates on Previously Identified Issues

7.1 Nuclear Terrorism Convention Signed by 82 Countries at the UN Summit

The International Convention for the Suppression of Acts of Nuclear Terrorism was signed by 82 countries at the UN Summit, beginning with Russia, the U.S., and France. The Convention, proposed by Russia in 1998, was adopted by the UN General Assembly in April 2005. [See also *UN Convention Against Nuclear Terrorism* in April 2005 environmental security report] Note: The newly released statistics of the IAEA's Illicit Trafficking Database (ITDB) show a substantial increase in illicit trafficking and unauthorized activities with nuclear and other radioactive materials in 2003-2004. Although the majority of the incidents showed no evidence of criminal activity, the Agency warns of the danger that these materials could be used for malicious purposes, like 'dirty bombs.' [See also *UN Agency to Intensify Tracking of Illicit Nuclear Trafficking* issue in the September 2004 environmental security report.]

Military Implications:

[Similar as in April 2005 report] The military should assess what new opportunities have been made possible as a result of this international agreement for improving security; and then recommend policy, training, and institutional or physical changes needed to exploit these opportunities.

Sources:

Russia to be the first to sign nuclear terrorism convention

http://en.rian.ru/russia/20050907/41321867.html (article available for a limited time on the website; full text in the <u>Appendix</u>)

Heads of State sign convention on nuclear terrorism

http://www.un.org/apps/news/story.asp?NewsID=15807&Cr=world&Cr1=summit

Ninety-nine nations participate in UN treaty event during 2005 World Summit http://www.un.org/apps/news/story.asp?NewsID=15898&Cr=world&Cr1=summit

Nuclear Trafficking Latest Statistics Released

http://www.iaea.org/NewsCenter/News/2005/traffickingstats.html

7.2 New EU Environmental Strategies

7.2.1 EU Thematic Strategy on Air Pollution for the CAFE Programme

Under the EU's Sixth Environmental Action Programme (6EAP), as part of the Clean Air for Europe (CAFE) strategy, the European Commission proposed the Thematic Strategy on Air Pollution. The Strategy, which aims to improve human and ecosystem health, covers most major air pollutants, with accent on airborne particulates known as PM2.5 and ground-level ozone pollution, and sets a cap on concentrations in the most polluted areas. It aims by 2020 to cut the annual number of premature deaths from air pollution-related diseases by almost 40% from the 2000 level. The strategy also proposes changes to the current regulation system by merging existing legal instruments into a single Ambient Air Quality Directive (that would cut by 50% the existing legal texts) and improving reporting requirements. The proposed legislation still has to be approved by member states and the European Parliament. The other six Thematic Strategies that

the Commission will present over the next few months cover Soil protection; Sustainable use of pesticides; Protect and conserve the marine environment; Waste prevention and recycling; Sustainable use of natural resources; and Urban environment. [See also *The European Union Environmental Initiatives* in January 2005 environmental security report]

Military Implications:

Military development and acquisition agencies need to be aware of and responsive to these changes. Military personnel stationed in EU Member States should review their equipment and activities to comply with the requirements in the Thematic Strategy on Air Pollution and the new Ambient Air Quality Directive, and monitor the other Thematic Strategies and developments that could lead to new binding regulations.

Sources:

Commission proposes clean air strategy to protect human health and the environment http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/1170&format=HTML&aged=0&language=EN&guiLanguage=en

The CAFE Programme. Implementation of the Thematic Strategy on Air Pollution http://europa.eu.int/comm/environment/air/cafe/

Environment 2010: Our Future, Our Choice. The Sixth Environment Action Programme of the European Community

http://europa.eu.int/comm/environment/newprg/index.htm

7.2.2 EC Proposed Strategy to Curb Greenhouse Gas Emissions from Air Travel

Considering the rapid increase of air travel and consequently its increased share in the overall EU greenhouse gas emissions undermining progress achieved through emission cuts in other areas of the economy, the EC proposed a strategy to tackle aviation emissions. It suggests bringing aircraft operators into the EU's Greenhouse Gas Emissions Trading Scheme (ETS), as an incentive for airlines to minimize their emissions. The new regulation would apply to all flights departing from the EU, whether to another EU destination or not and all carriers (EU or non-EU) would be treated equally.

Military Implications:

Although the proposed strategy seems to refer just to civil carriers, one should not conclude that at some point, when the regulation becomes final, that there will be exemptions for military aviation, particularly for aircraft based on EU soil. Hence, relevant military personnel should follow the evolution of this new strategy in order to be prepared to comply, if that situation arises.

Source:

Climate change: Commission proposes strategy to curb greenhouse gas emissions from air travel http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/05/1192&format=HTML&aged=0&language=EN&guiLanguage=en

7.3 Worries over Avian Influenza Pandemic Increase

Lee Jong-wook, the head of the World Health Organization, has predicted that the avian flu virus will mutate so as to make the disease transmissible from human to human, and says that the world has no time to waste to stop it becoming a pandemic. "The pandemic is likely to be like the seasonal influenza, which is much more infectious than the SARS virus," said Dr Hitoshi Oshitani,

who ran the battle against SARS and now leads the fight against avian flu in Asia. The United States is working to rally states behind a new U.S. plan to fight the disease, and Canada will host a major international conference in October to discuss how ready the world is to combat a likely pandemic. Concerns are increasing even more as strains of the virus in Asia seem to be becoming resistant to amantadine, a widely used drug for human cases, possibly because farmers are giving it as a preventative to poultry. It has also been shown that strains less dangerous than H5N1 can be transmitted from birds to people. An important achievement is that scientists in Singapore have developed a test kit that can detect the gene specific to the H5N1 strain (so both in animals and humans) within four hours, compared to the several days that it takes with present lab tests. This might help a lot in controlling the spread of the virus. [See also *Avian Influenza New Developments* in April 2005 environmental security report.]

Military Implications

[Similar as in previous reports] It seems wiser to overreact to these projections about bird flu's impacts than to underreact. Infection rates of any animals should be monitored as a lead indicator for eventual virus mutation and/or human infections. The organizations working on vaccine development should collaborate to find the best match and to assure mass production, while governments should collaborate on organizing vaccine administration. The military stationed in those regions should have vaccine available for force protection, as soon as it becomes available. Additionally, preventive health staff resources should be augmented by training environmental management personnel at military facilities to assist in collecting and identifying wildlife (living and dead/dying) that might become or be reservoirs/transmitters of avian flu. This could be particularly useful in areas where bird migrations could move the virus from area to area.

Sources:

UN Health Chief Sounds Alarm on Bird Flu

http://www.planetark.com/dailynewsstory.cfm/newsid/32534/story.htm

Canada to host big October conference on avian flu

http://www.alertnet.org/thenews/newsdesk/N1538733.htm

Concern grows over drug resistance in bird flu strains

http://www.scidev.net/content/news/eng/concern-grows-over-drug-resistance-in-bird-flu-strains.cfm

World has slim chance to stop bird flu pandemic

http://www.alertnet.org/thenews/newsdesk/SYD202011.htm

Global strategy to fight bird flu in animals faces serious funding gap

http://www.fao.org/newsroom/en/news/2005/107804/index.html

Singapore Scientists Invent Quick Bird Flu Test

http://www.planetark.com/dailynewsstory.cfm/newsid/32695/story.htm

7.4 Global Warming Could be the Cause of Significant Disasters

Several research papers published recently link the increasing numbers and intensity of powerful storms to increasing ocean temperatures, suggesting that global warming is the main cause. Most climate models indicate that the effects of climate change will be felt more intensely farther from the equator. ESA's CryoSat measurements of sea ice are expected to confirm or refute this theory and also help with better weather forecasting.

Dr. Nathan P. Gillett argues in an article published in *Nature* that the impact of global warming on European weather patterns has been underestimated. The Northern Hemisphere Circulation study compares the results of nine state-of-the-art climate models with real situation of Northern Hemisphere air pressure changes at sea level over the past 50 years. It concludes that the simulations underestimate the sea-level air pressure circulation trends, which questions their accuracy in showing changes of weather patterns or predicting regional climate changes.

A report by population health experts from Australia and New Zealand warns that even with action to reduce global warming, thousands of Australians are likely to die by the end of the century because of heat waves caused by human-induced climate change. It is estimated that by 2100 the annual average temperatures could increase by 1 to 6°C over most of Australia, with significantly larger changes in some regions. The report, *Climate change health impacts in Australia*, also addresses the danger of spread of dengue-carrying mosquitoes, as well as possible large-scale poverty and migration in the Asia-Pacific region, mainly in the Small Island States that are particularly susceptible to climate change.

Shishmaref, a whole community of 600 residents of NW Alaska, needs to be permanently relocated on the mainland to be protected from storm systems that are certain to arrive, as a consequence of global warming. Other communities from farther north might follow.

Military Implications:

[Similar to previous on Climate Change-related issues] New scientific evidence, grassroots groups, and conscientious governments will amplify the pressure for tackling climate change issues. It is likely that national and regional anti-pollution measures will become more drastic. The military should enhance its efforts to reduce climate-affecting pollution from all sources and all stages of production and use, to comply with potentially tougher regulations and also to set an example.

Sources:

Changes in Tropical Cyclone Number, Duration, and Intensity in a Warming Environment http://www.sciencemag.org/cgi/content/full/309/5742/1844?ijkey=iqoyPaiwaACR6&keytype=reft.

Global warming 'could create stronger hurricanes'

http://www.scidev.net/News/index.cfm?fuseaction=readNews&itemid=2360&language=1

Northern exposure to greatest climate change? CryoSat should find out

http://www.esa.int/esaEO/SEMA0R4Y3EE_planet_0.html

Climate modeling: Northern Hemisphere circulation

http://www.nature.com/nature/journal/v437/n7058/abs/437496a.html

No stopping deaths from climate change

http://abc.net.au/science/news/health/HealthRepublish_1465428.htm

Shishmaref ponders next move as erosion continues

http://www.adn.com/news/alaska/story/7012209p-6914369c.html

Item 8. Reports to Review

8.1 Asia's Water Security in Jeopardy

The Fall of Water report assesses the situation of Asia's mountain areas, including the Himalayas. It warns that rapid increase in infrastructure, overgrazing, and deforestation, are accelerating threats from highland glaciers shrinking, raising concerns related to the region's future water supplies, flooding, and drought. The report notes that presently about 50% of Asia's mountain region is affected by infrastructure development, which by 2030 could rise to over 70% if current practices continue unrestricted. Similarly, highland glaciers are shrinking by 7% annually, which means that by 2050, about 64% of China's glaciers would have vanished. The report argues that unsustainable local development and climate change accelerated by fossil fuel burning are likely to aggravate the problems. It points out that without fast implementation of sound environmental management policies for sustainable development, water security of about half the world's population could be in serious jeopardy. The outcomes are the results of collaborative work of UNEP, IUCN, Chinese Academy of Sciences, International Centre for Integrated Mountain Development (ICIMOD), and the Netherlands Environmental Assessment Agency. The report was released in preamble to the 2005 World Summit of mid-September.

Military Implications:

Relevant military personnel should study this report to find opportunities for improving water management via military-to-military assistance.

Source:

Asia's Water Security Under Threat

Water for Near Half the World's Population under Threat at the Roof of the World http://www.unep.org/Documents.Multilingual/Default.asp?DocumentID=452&ArticleID=4916&l=en

8.2 Human and Environmental Security - An Agenda for Change

From the press release: "This ground-breaking book, authored by prominent international decision-makers, tackles the global human security problem across the range of core issues. The authors identify the causes of insecurity, articulate the linkages between the different elements of human security, and outline an agenda for engaging stakeholders from across the globe in building the foundations of genuine and lasting human security for all nations and all people." (The book is available for purchase; full press release and information in the Appendix)

Military Implications:

Relevant military personnel might find the report useful for new insights on human security issues and an assessment of the present and future status of security threats, mainly related to the environment.

Sources:

Press release, Network 2015 email list (see Appendix)

Human and Environmental Security - An Agenda for Change

Available through: http://www.stakeholderforum.org/StakeholderForumbooks3.pdf

8.3 World Resources 2005 -- The Wealth of the Poor: Managing Ecosystems to Fight Poverty This joint report from UNEP, UNDP, the World Bank, and the World Resources Institute suggests an approach to addressing poverty by focusing on environment and local natural resources beyond

the conventional aid projects, debt relief, and trade reform. It presents models on how natural resources—soils, forests, water, and fisheries—managed at the local level--could be the most effective means for the world's rural poor people to generate a better life. The report pleads for community stewardship of local resources as a critical element of any poverty-reduction activity. UNEP executive director Klaus Toepfer called the report, "essential reading for any world leader serious about defeating poverty." This is the 11th in a series of biennial reports on global environment and governance.

Military Implications:

Since poverty and environmental degradation are recognized as important components of conflict generation, the report might be a source of inspiration for conflict reduction measures. Relevant military personnel should study the report for insights on using the environment and community-based decision making as active elements for poverty reduction and reducing and/or preventing conflict. Opportunities should be sought in Afghanistan. Marsh restoration in Iraq could be a success story.

Sources:

World Resources 2005 -- The Wealth of the Poor: Managing ecosystems to fight poverty http://population.wri.org/pubs_description.cfm?PubID=4073

News Release: Major report stresses natural resources as path out of poverty http://population.wri.org/newsrelease_text.cfm?NewsReleaseID=336

8.4 Environment and Security-The Role of the United Nations

This comprehensive report summarizes the outcomes of a Roundtable Conference conducted by the UN Foundation and the Woodrow Wilson Center's Environmental Change and Security Project. It assesses security by its links to population, water, resources, and climate change and makes recommendations to the UN for a better integration of environment with security issues. It recommends that "The UN Security Council should take a leadership role by making environmental security a priority and moving environmental issues from the technical to the security domain", and that the UN coordinate international efforts on environmental security in all fields, from trade to water, climate change, and integrated environmental perspective in all its projects. "By protecting the earth, the UN Security Council can help preserve the peace," concludes the report. [See also *New Reports Stress the Link between Environment and Security* in the January 2005 environmental security report.]

Military Implications:

The report's focus on recommendations to the UN can help one understand the respective environmental security roles for national militaries vs. UN forces. Although environmental issues were not high on the 2005 UN Summit agenda, it is likely that recommendations such as the ones made by this report will find their ways into the UN restructuring process. Relevant military personnel should study the report to appreciate the extent of the international community's insights on links between environment and security.

Source:

Environment and Security—The Role of the United Nations http://www.wilsoncenter.org/news/docs/ACF64A.pdf

APPENDIX

Reference Details

This Appendix contains the full text for the articles that are not available on the Internet or are usually stored for a limited time on the respective Web sites.

Item 7. Updates on Previously Identified Issues

7.1 Nuclear Terrorism Convention Signed by 82 Countries at the UN Summit

Russia to be the first to sign nuclear terrorism convention

NOVOSTI, Russian News and Information Agency, 07/09/2005 http://en.rian.ru/russia/20050907/41321867.html (article available for a limited time on the website)

07/09/2005 10:12 MOSCOW, September 7 (RIA Novosti) - Russia will be the first to sign the International Convention for the Suppression of Acts of Nuclear Terrorism in New York on September 14, Russian Deputy Foreign Minister Alexander Yakovenko said Wednesday in an article in the government daily Rossiiskaya Gazeta.

The UN General Assembly unanimously adopted the international document, which was proposed by Russia in 1998, on April 13, 2005.

Yakovenko said: "The adoption of the convention is the result of systematic, resourceful and energetic work, first of all on the part of Russia."

"The convention is largely an innovative document," Yakovenko said, adding that the international community had worked out a document for the first time to prevent certain terrorist attacks.

"The convention's adoption shows the resolve and capabilities of the UN member states to adapt the Organization to modern realities and security requirements," the official said.

Yakovenko said that many countries would follow Russia's example, first of all the participants in a UN Security Council session at the World Summit 2005, which will be held in New York on September 14-16. An anti-terrorist resolution, which includes a call to countries to make signing the convention a priority, should be adopted at the summit.

Item 8. Reports to Review

8.2 Human and Environmental Security - An Agenda for Change

From: "Network 2015" <network 2015@stakeholderforum.org>

To: acunu@igc.org

Subject: new book just out for World Summit 2005 on Human and Environmental Security

Date: Sat, 03 Sep 2005 16:05:33 +0100 Reply-To: clittlecott@stakeholderforum.org

Just out

Human and Environmental Security - An Agenda for Change Edited by Felix Dodds and Tim Pippard

Authored by prominent and powerful decision-makers including Hilary Benn, Lord David Hannay, Serge Lepeltier, Marian Hobbs, Jim Garrison, Anna Tibaijuka, Marian Hobbs, Jan Pronk, Introduction by Brazilian Foreign Minsiter Celso Amorim the book

- * Is a great sourse of ideas relevant to the September World Summit 2005
- * Exposes the causes of, and proposes solutions to, human and environmental insecurity the leading concerns for governments in the 21st century
- * A 'must have' for all governments, journalists, analysts and researchers, academics, students and NGOs addressing human and environmental security across all of the key issues

Security has tended to be seen as based on military force, yet this illusion is crumbling, literally and figuratively, before our eyes in the conflict zones of Iraq, Afghanistan and equatorial Africa. It is now clear that real human security, defined by the Commission on Human Security as 'protecting vital freedoms', can only be achieved if the full range of issues that underpin human security – including environmental integrity – are addressed. This ground-breaking book, authored by prominent international decision-makers, tackles the global human security problem across the range of core issues. The authors identify the causes of insecurity, articulate the linkages between the different elements of human security and outline an agenda for engaging stakeholders from across the globe in building the foundations of genuine and lasting human security for all nations and all people. The World Summit in September may set the international agenda on Human and Environmental Security for the next decade - This book is a must for everything interested in international politics and the development of ideas

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Introduction Celso Amorim (Brazilian Foreign Minister) Foreword Dr Klaus Toepfer (Executive Director UNEP)

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Agenda for Change Felix Dodds (Executive Director Stakeholder Forum) and Tim Pippard (Content Editor Jane's Information Group)

Section 1: Peace and Security

1. "A More Secure World: Our Shared Responsibility". The Report of the High Level Panel on Threats, Challenges and Change

David Hannay (UK representative on the UN High Level Panel on Threats, Challenges and Change)

2. The Peacebuilding Commission

Anders Lidén (Permanent Representative of Sweden to the United Nations) and Anna Karin Eneström (Minister, Permanent mission of Sweden to the United Nations)

3. Human Security and the War on Terror

Oliver Richmond (Reader, School of International Relations, University of St. Andrews) and Jason Franks (University of St. Andrews)

4. Achieving Nuclear Non-Proliferation: A New Zealand Perspective

Marian Hobbs (New Zealand Minister for Disarmaments and Arms Control)

5. Women, War and Peace: Mobilizing for Security and Justice in the 21st Century

Noeleen Heyzer (Executive Director, UN Development Fund for Women)

Section 2: Sustainable Human Development

6. Globalisation, Poverty and Security

Jan Pronk (Former Dutch Environment Minister and UN Special Envoy to Sudan)

7. Trade and Security in an Interconnected World

Hilary Benn (UK Secretary of State for International Development)

8. Climate Change: Emerging Insecurities

Melinda Kimble (Senior Vice President, UN Foundation)

9. Migration, Development and Security

Devyani Gupta

10. Securing a Healthier World

Dr. Christine Durbak and Dr. Claudia Strauss (World Information Transfer)

11. Protecting our Biodiversity

Jeff McNeely (IUCN Chief Scientist)

12. Food Security

Henrique Cavalacanti (former Brazilian Environment Minister)

13. Water Security: What role for international water law?

Patricia Wouters (Director, International Water Law Research Institute, University of Dundee)

14. Urban Security: A Collective Challenge for Sustainable Human Settlements Development Anna Tibaijuka (Executive Director UN Habitat)

Section 3 Global Governance

15. America as Empire: Global Leader or Rogue Power?

Jim Garrison (President, State of the World Forum)

16. The emergence and role of regional governance

Sabin Intxaurraga (Basque Minister for the Environment)

17. Human and Environmental Rights: A Need for Corporate Accountability

Hannah Griffiths (Senior Campaigner, Friends of the Earth)

18. Stakeholder Democracy

Felix Dodds (Executive Director, Stakeholder Forum)

19. Reforming Environmental Governance

Serge Lepeltier (French Environment Minister)

Bibliographic Details

Paperback £19.99 ISBN: 1844072142 Hardback £70.00 ISBN: 1844072134

available through: http://www.stakeholderforum.org/StakeholderForumbooks3.pdf

or www.felixdodds.net or www.earthscan.co.uk or www.amazon.co.uk

Building Partnerships
Felix Dodds
Executive Director Stakeholder Forum for a Sustainable Future
Calle General Etxague 14-4A,
20003 San Sebastian,
Guipzkoa, Spain.
fdodds@stakeholderforum.org
mobile: +34 943 422216 or 943.278.888
SF in London +44 207 5806912
Spain 34 943 278 888 for london +44 207 580 6872

NEW +34 662136450 (most of time) 44 7950320648